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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,331	03/12/2004	Stephan Levine	ASX-066	6232
7590 Proskauer Rose LLP 14th Floor One International Place Boston, MA 02110-2624			EXAMINER AKANBI, ISIAKA O	
			ART UNIT	PAPER NUMBER
			2877	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/12/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/799,331

Applicant(s)

LEVINE ET AL.

Examiner

Isiaka O. Akanbi

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 2 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Amendment*

The amendment file 19 October 2006 has been entered into this application. Claim 2 has been cancelled. Claims 27-28 have been added.

### *Claim Objections*

Claim 3 and 4 are objected to because they depend on a cancelled claim 2. Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8, 10-11 and 13-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weckstrom (6,791,689 B1) in view of Hallstadius (2003/0025909 A1)

Claims 1 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weckstrom in view of Hallstadius. The reference of Weckstrom teaches of an apparatus/method for measurement, comprising a vessel (2) to contain an ozonated fluid (col. 7, line 50-53)(figs. 2-7), a light source (1) configured to direct a first band of light that is detected by (9/11) and a second band of light that is detected by (9/11) along a substantially shared path through the ozonated fluid in the vessel (2), wherein ozone in the ozonated fluid has a greater absorption associated with the first band of light than with the second band of light and a photosensor (9/11) that senses the first band of light and the second band of light passing along the substantially shared path. The reference of Weckstrom is silent regarding to measuring ozonated fluid with different wavelength and modifying a measured attribute of the ozone in the ozonated fluid determined from the sensed first band of light in response to the sensed second

band of light to improve the accuracy of the measured attribute. The reference of Hallstadius shows that it is known to measure ozone/ozonated fluid with different wavelength and modifying a measured ozone in the ozonated fluid determined from the sensed first band of light in response to the sensed second band of light to improve the accuracy of the measured attribute (figs. 1-2)(see abstract)(page 2, pars. 0015-0020)(pars. 0001 and 0078)(claim 1). It would have been obvious to one having ordinary skill in the art at the time of invention to provide an apparatus/method for measuring ozonated fluid with different wavelength for the purpose of measuring ozone concentration with accuracy.

As to claim 3, the combination of Weckstrom and Hallstadius disclose the claimed invention, as applied to claim 1 above, in addition Weckstrom discloses a delivery pipeline for the ozonated fluid to permit in situ measurement of the ozone. (fig. 4)(col. 7, line 5-20).

As to claims 4, 5 and 6, Weckstrom and Hallstadius disclose everything claimed, as applied to claim 1 above, in addition Weckstrom discloses wherein the spectrums are different (i.e. first band of light is associated with a yellow-red frequency and a first width, and the second band of light is associated with a blue frequency and a second width) by using/detecting wavelength region seen by detector (9) and reference detector (11) so that the signal from reference detector (11) is not sensitive (i.e. a yellow-red light-emitting diode to provide the first band of light, and a blue light-emitting diode to provide the second band of light), or is less sensitive (figs. 3 and 4)(col. 6, line 20-23).

As to claims 7 and 8, Weckstrom and Hallstadius disclose everything claimed, as applied to claim 1 above, in addition Weckstrom discloses wherein the substantially shared path is defined in part by at least one reflection site (4) to increase a length of the path through the ozonated fluid in the vessel, thereby increasing a measurement sensitivity for the attribute of the ozone in the ozonated fluid and a material that defines an inner surface of the vessel that diffusely scatters the first and second bands of light at the at least one reflection site (figs. 2 and 3)(col. 4, line 56-57).

As to claims 10 and 11, Weckstrom and Hallstadius disclose everything claimed, as applied to claim 1 above, in addition Weckstrom discloses wherein the attribute of the ozone in the ozonated fluid has an absorption band that overlaps the first band of light and wherein the light source comprising a light-emitting diode (col. 6, line 12-43).

As to claim 13, Weckstrom and Hallstadius disclose everything claimed, as applied to claim 1 above, in addition Weckstrom discloses wherein the photosensor senses (9) the first

band of light and the second band of light after the first band of light and the second band of light pass along the substantially shared path (figs. 2-4)(col. 5, line 58-col. 6, line 1-3).

As to claim 14, Weckstrom and Hallstadius disclose everything claimed, as applied to claim 1 above, in addition Weckstrom discloses wherein the photosensor (11/9) senses the first band of light and the second band of light as the first band of light and the second band of light pass along the substantially shared path (figs. 2-4).

As to claim 15, Weckstrom and Hallstadius disclose everything claimed, as applied to claim 1 above, in addition Weckstrom discloses at least one of a temperature sensor (7), for measuring a temperature of the ozonated fluid in the vessel, and a pressure sensor, for measuring a pressure of the ozonated fluid in the vessel (fig. 2)(col. 5, line 16-18).

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weckstrom in view of Hallstadius. The reference of Weckstrom teaches of an ozonated water generator, comprising a contactor (23/30) for mixing water and ozone gas, a pipeline in fluid communication with the contactor (23/30) for delivery of ozonated water to a process tool, a light source (1) configured to direct a first band of light and a second band of light along a substantially shared path through the fluid in the pipeline, wherein ozone in the ozonated water has a greater absorption associated with the first band of light than with the second band of light and a photosensor (9) that senses the first band of light and the second band of light after they pass along the substantially shared path for measuring an attribute of the ozone in the ozonated fluid (figs. 4 and 5)(9/26/27)(col. 6, line 12-col. 8 line 1-7). The reference of Weckstrom is silent regarding to measuring an attribute of the ozone in the ozonated fluid with different wavelength. The reference of Hallstadius shows that it is known to measure the attribute of ozone/ozonated fluid with different wavelength (figs. 1-2)(see abstract)(page 2, pars. 0015-0020)(pars. 0001 and 0078)(claim 1). It would have been obvious to one having ordinary skill in the art at the time of invention to provide an apparatus/method for measuring ozonated fluid with different wavelength for the purpose of measuring ozone concentration with accuracy.

As to claim 18, Weckstrom and Hallstadius disclose everything claimed, as applied to claim 17 above, Weckstrom discloses sensing the first band of light and the second band of light after they pass along a substantially shared path through the ozonated fluid (figs. 4 and 5)(col. 7, line 50-54), however the reference of Weckstrom is silent regarding wherein modifying

comprising correcting the measured attribute for an intensity loss of the sensed first band of light associated with at least one factor other than absorption by the attribute of ozone in the ozonated fluid. The reference of Hallstadius teaches of modifying measured ozone in the ozonated fluid (figs. 1 and 2)(pars. 0001, 0078, 0083)(claim 1). It would have been obvious to one having ordinary skill in the art at the time of invention to provide a modification that comprises correcting the measured attribute for an intensity loss of the sensed first band of light associated with at least one factor other than absorption by the attribute of ozone in the ozonated fluid for the purpose of measuring ozone concentration with accuracy.

As to claim 19, Weckstrom and Hallstadius disclose everything claimed, as applied to claim 17 above, in addition Weckstrom discloses at least one factor comprising at least a reflectivity of a reflection site of the substantially shared path by using the detectors (figs. 2-7)(9 and 11).

As to claim 20, Weckstrom and Hallstadius disclose everything claimed, as applied to claim 17 above, in addition Weckstrom discloses providing the substantially shared path in a vessel (2)(figs. 2-7).

As to claim 21, Weckstrom and Hallstadius disclose everything claimed, as applied to claim above, in addition Weckstrom discloses wherein the substantially shared path is defined in part by at least one reflection site (4) to increase a length of the substantially shared path in the vessel.

As to claim 22, Weckstrom and Hallstadius disclose everything claimed, as applied to claim above, in addition Weckstrom discloses further comprising causing the ozonated water to flow through the vessel (2) from an ozonated water generator (23/30) to a process tool (9/26/27) to permit in situ measurement of the ozone concentration (figs. 4-5).

As to claim 23, Weckstrom and Hallstadius disclose everything claimed, as applied to claim 17 above, in addition Weckstrom discloses alternately directing the first band of light and the second band of light along the substantially shared path, wherein sensing comprising alternately sensing (9) the first band of light and the second band of light (11)(figs. 3-4).

As to claim 24, Weckstrom and Hallstadius disclose everything claimed, as applied to claim above, in addition Weckstrom discloses wherein alternately directing further comprises alternately directing no light along the substantially shared path (figs. 2-4)(col. 5, line 58-col. 6, line 1-3).

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As to claim 25, Weckstrom and Hallstadius disclose everything claimed, as applied to claim 22 above, in addition Weckstrom discloses wherein further comprising sensing at least one of the first band of light (9) and the second band of light (11) along at most a portion of the substantially shared path, and responsively maintaining an emitted intensity of at least one of the first band of light and the second band of light (figs. 2-4)(col. 5, line 58-col. 6, line 1-27).

As to claims 27 and 28, Weckstrom and Hallstadius disclose everything claimed, as applied to claim 1 above, Weckstrom discloses sensing the first band of light and the second band of light after they pass along a substantially shared path through the ozonated fluid and absorption of the first or second bands of light (figs. 4 and 5)(col. 7, line 50-54)(col. 9, line 21-30), however the reference of Weckstrom is silent regarding the attribute is ozone concentration. The reference of Hallstadius teaches of attribute that is ozone concentration (figs. 1-2)(see abstract)(page 2, pars. 0015-0028). It would have been obvious to one having ordinary skill in the art at the time of invention to provide attribute that is ozone concentration by measuring/determining the concentration ozone in a sample.

Claims 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weckstrom (6,791,689 B1) as applied to claim 1, in view of the examiner Official Notice.

As to claim 9, the reference of Weckstrom discloses the claimed invention as applied to claim 7 except for is silent with regard to coating on an exterior surface of the vessel. The examiner wishes to take Official Notice of the fact that the coating an exterior/interior surface would have been well known. It would have been obvious to one having ordinary skill in the art at the time of invention to provide a coating on an exterior surface of the vessel for the purpose of accurately reflecting the total or partial reflection of a source beam.

As to claim 12, the reference of Weckstrom discloses the claimed invention as applied to claim 1 except for is silent with regard to the type of materials use for the vessel as being selected from group (i.e. quartz and a polymer). The examiner wishes to take Official Notice of the fact that the use of a material selected from the group of (i.e. quartz and a polymer) for a vessel would have been well known. It would have been obvious to one having ordinary skill in the art at the time of invention to provide a vessel comprising a material that is selected from the group of (i.e. quartz and a polymer) for the purpose of transparent or translucent for receiving flowing fluids/gas.

### **Additional Prior Art**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references listed in the attached form PTO-892 teach of other prior art apparatus/method for measurement that may anticipate or obviate the claims of the applicant's invention.

### ***Response to Arguments***

Applicant's arguments/remarks, see pages 8-10, filed 19 October 2006, with respect to the rejection(s) of claim(s) 1-26 under 35 U.S.C. 102(b) and 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of claim amendment.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### **Official Notice**

Several facts have been relied upon from the personal knowledge of the examiner about which the examiner took Official Notice. Applicant must seasonably challenge well known statements and statements based on personal knowledge. In re Selmi, 156 F.2d 96, 70 USPQ 197 (CCPA 1946); In re Fischer, 125 F.2d 725, 52 USPQ 473 (CCPA 1942). See also In re Boon, 439 F.2d 724, 169 USPQ 231



(CCPA 1971) (a challenge to the taking of judicial notice must contain adequate information or argument to create on its face a reasonable doubt regarding the circumstances justifying the judicial notice). If applicant does not seasonably traverse the well-known statement during examination, then the object of the well-known statement is taken to be admitted prior art. In re Chevenard, 139 F.2d 71, 60 USPQ 239 (CCPA 1943). A seasonable challenge constitutes a demand for evidence made as soon as practicable during prosecution. Thus, applicant is charged with rebutting the well-known statement in the next reply after the Office action in which the well-known statement was made. See MPEP 2144.03, paragraphs 4 and 6.

### **Fax/Telephone Information**

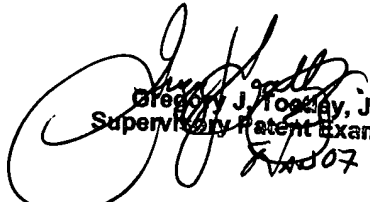
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isiaka Akanbi whose telephone number is (571) 272-8658. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley Jr. can be reached on (571) 272-2059. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Isiaka Akanbi

December 27, 2006

  
Gregory J. Toatley, Jr.  
Supervisory Patent Examiner  
2/2/07